I-805 TRANSPORTATION CONCEPT REPORT

DISTRICT 11 - System Planning

May 1999

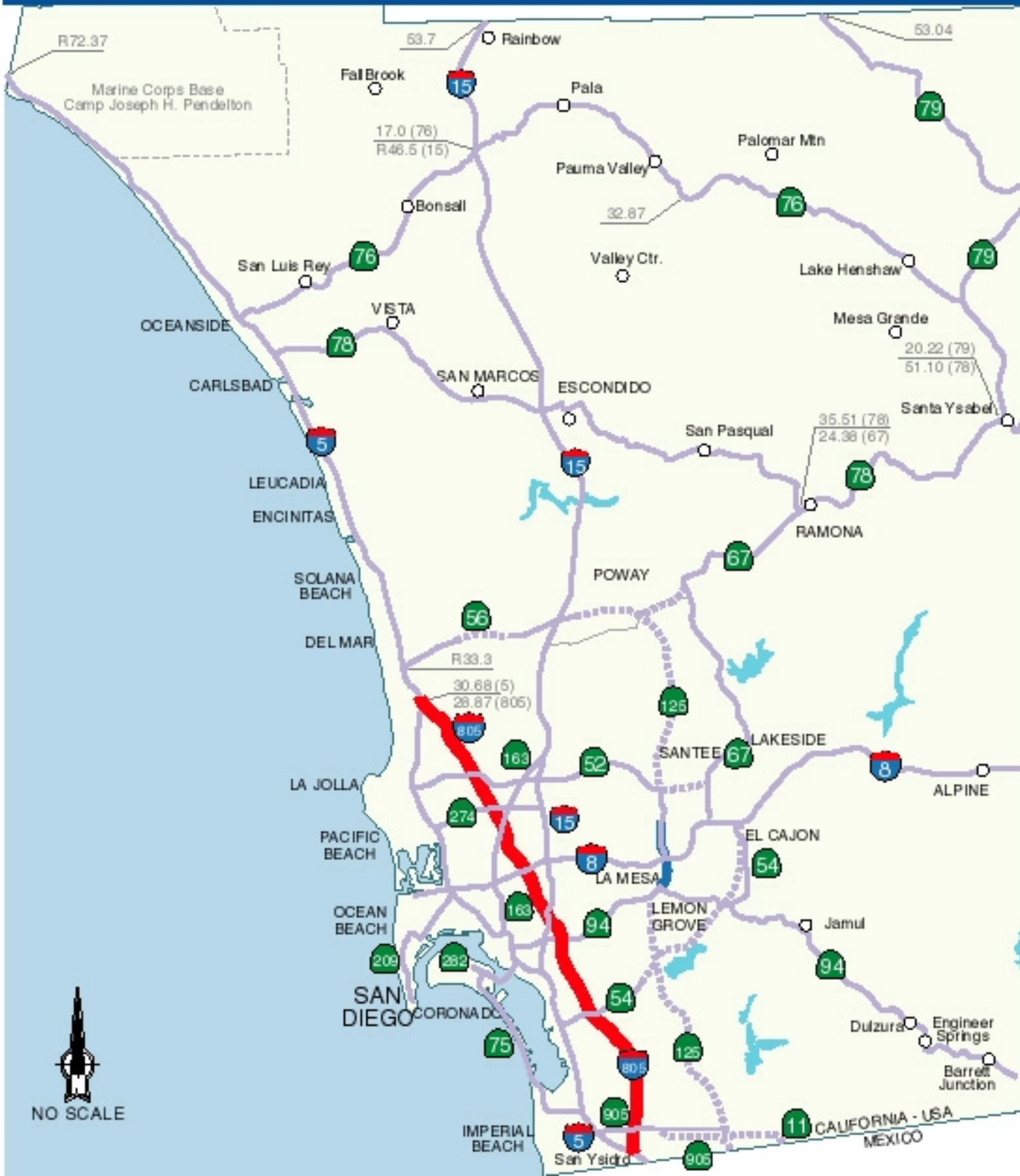

TABLE OF CONTENTS

LIST OF TABLES

Transportation Concept Summary

INTERSTATE 805

11-SD-805 P.M. 0.5-28.5

This Transportation Concept Report (TCR) is a planning document which describes the Department's basic approach to the development of a given corridor. Considering reasonable financial constraints and projected travel demand, this TCR establishes a 20 year transportation planning concept for Interstate 805 (I-805) and identifies modal transportation options needed to achieve the concept. The concept considers operating levels of service (LOS), modal improvements, and new technologies. The TCR also considers potential long term needs for the corridor beyond the 20 year planning period. The long term needs focus on the Post-2020 Ultimate Transportation Corridor (UTC).

The TCR is a preliminary planning phase document leading to subsequent programming and the project development process. As such, the specific proposed nature of improvements (i.e., number of lanes, access control, etc.) may change in later project development stages, with final determinations made during the Project Study Report , Project Report , and design phases.

Each TCR must be viewed as an integral part of a planned system. The TCR is based on the completion of the 20 year system. The system has been developed to meet anticipated travel demand generated from regional growth forecasts. Removal of any portion of a route from the system will adversely affect travel on parallel or intersecting routes.

TCRs are prepared by Caltrans District staff in cooperation with local and regional agencies. They are updated as necessary as conditions change or new information is obtained.

The focus of TCRs is the 2020 Transportation Concept, which includes State highway, transit service, system management and travel reduction, goods movement, International border, aviation and nonmotorized components.

ROUTE DESCRIPTION

Interstate 805 (I-805) is a major north/south eight-lane freeway beginning at the south junction with Interstate 5 (I-5) near the Mexican Border and continuing 45.1 kilometers (28 miles) north where it again joins with I-5 in the northern area of the City of San Diego. The route runs roughly parallel to I-5, and traverses the central portion of the San Diego urbanized area.

I-805 was adopted as a freeway on September 27, 1960. The route was completed and opened to traffic in the early 1970's.

Nine State highways intersect I-805. They are I-5, State Route 905 (SR-905), SR-54, SR-94, I-15, I-8, SR-163, SR-274 and SR-52.

PURPOSE OF ROUTE

The primary purposes of I-805 are to provide north-south movement of traffic through the San Diego urbanized area and to provide an alternative route for I-5 traffic to bypass the congested Central Business District (CBD). It provides direct access to the major employment centers located in Kearny Mesa, the University City area, and Sorrento Valley, and acts as a major commuter route. The existing facility and operating conditions for I-805 in San Diego County are shown in Table S-1. The existing conditions are based on 1998 data.

TABLE S-1
EXISTING FACILITY AND OPERATING CONDITIONS

Segment/ County/ Post Mile	Location	# of Lanes/ Facility Type	ADT	Peak Hour D/CRatio	PeakHour Operating LOS
1 SD 0.5 - 1.8	I-5 to SR-905	8F	50 500	0.31	A
2 SD 1.8 - 2.9	SR-905 to Palm Avenue	8F	89 400	0.54	B
3 SD 2.9 - 7.2	Palm Avenue to H Street	8F	140 600	0.68	C
4 SD 7.2 - 8.9	H Street to SR-54	8F	188 100	1.03	F0
5 SD 8.9 - 13.5	SR-54 to SR-94	8F	208 700	1.00	E
6 SD 13.5 - 14.6	SR-94 to I-15	8F	207 500	1.21	F0
7 SD 14.6 - 17.6	I-15 to I-8	8F	232 300	1.22	F0
8 SD 17.6 - 20.6	I-8 to SR-163	10F	222 500	1.13	F0
9 SD 20.6 - 23.7	SR-163 to SR-52	8F	185 400	1.05	F0
10 SD 23.7 - 27.1	SR-52 to Mira Mesa Blvd	8F	183 500	1.09	F0
11 SD 27.1 - 28.5	Mira Mesa Blvd to I-5	8F	129 500	0.63	C

ADT = Average Daily Traffic
D/C = Demand to Capacity
8F = Eight lane freeway
10F = Ten lane freeway

Table S-2 shows the 2020 Transportation Concept for I-805.

TABLE S-2
2020 TRANSPORTATION CONCEPT

Segment/ County/ Post Mile	Location	# of Lanes/ Facility Type	ADT**	Peak Hour D/C Ratio	Peak Hour Operating LOS ***	Concept LOS ****
1 SD 0.5 - 1.8	I-5 to SR-905	8F	78 100	0.64	C	E
2 SD 1.8 - 2.9	SR-905 to Palm Avenue	8F + Study HOV/ Managed/AddedLanes	141 300	1.08	F0	E
3 SD 2.9 - 7.2	Palm Avenue to H Street	8F + Study HOV/ Managed/AddedLanes	205 900	1.24	F0	E
4 SD 7.2 - 8.9	H Street to SR-54	8F + Study HOV/ Managed/AddedLanes	263 600	1.46	F2	E
5 SD 8.9 - 13.5	SR-54 to SR-94	8F + Study HOV/ Managed/AddedLanes	238 900	1.25	F0	E
6 SD 13.5 - 14.6	SR-94 to I-15	8F + Study HOV/ Managed/AddedLanes	256 200	1.44	F2	F0
7 SD 14.6 - 17.6	I-15 to I-8	8F + Study HOV/ Managed/AddedLanes	240 300	1.35	F1	F0
8 SD 17.6 - 20.6	I-8 to SR-163	10F + Study HOV/ Managed/AddedLanes	242 500	1.25	F0	F0

Segment/ County/ Post Mile	Location	# of Lanes/ Facility Type	ADT**	Peak Hour D/C Ratio	Peak Hour Operating LOS ***	Concept LOS ****
9 SD 20.6 - 23.7	SR-163 to SR-52	8F + Study HOV/ Managed/AddedLanes	230 200	1.26	F0	E
10 SD 23.7 - 27.1	SR-52 to Mira Mesa Blvd	8F + 2 HOV*	261 400	1.26	F0	F0
11 SD 27.1 - 28.5	Mira Mesa Blvd to I-5	8F + 2 HOV*	220 800	1.26	F1	E

ADT = Average Daily Traffic
HOV = High Occupancy Vehicle lanes
8F = Eight lane freeway
10F = Ten lane freeway

The Concept LOS for the HOV lanes is LOS "C".
** ADTs are from SANDAG Series 8 2020 (1996 RTP Preferred) Traffic Forecasting Model plots, July, 1996 and are subject to change.
*** Peak Hour Operating Level Of Service includes provision of state highway, transit and arterial improvements.
**** Concept LOS is based on the SANDAG CMP minimum LOS standard.

Table S-3 shows highway improvements to I-805 that are part of the 2020 Transportation Concept. Segments without proposed highway improvements are not included. The peak hour D/C ratio and peak hour Operating LOS listed assume completion of the proposed highway improvements. These improvements are also shown on the Transportation Concept Map at the end of this report.

TABLE S-3
2020 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS

Segment/ County/ Post Mile	Location	Improvement Description	Peak Hour D/C Ratio	Peak Hour Operating LOS *	Concept LOS**
2 SD 1.8-2.9	SR-905 to Palm Avenue	Study HOV/Managed/Added Lanes	1.08	F0	E
3 SD 2.9-7.2	Palm Avenue to H Street	Study HOV/Managed/Added Lanes	1.24	F0	E
3 SD 4.4	Orange Avenue	Revise interchange***	1.24	F0	E
3 SD 5.8-6.4	Telegraph Canyon Road	Revise interchange	1.24	F0	E
4 SD 7.2-8.9	H Street to SR-54	Study HOV/Managed/Added Lanes	1.46	F2	E
5 SD 8.9-13.5	SR-54 to SR-94	Study HOV/Managed/Added Lanes	1.25	F0	E
6 SD 13.5-14.6	SR-94 to I-15	Study HOV/Managed/Added Lanes	1.44	F2	F0
7 SD 14.6-17.6	I-15 to I-8	Study HOV/Managed/Added Lanes	1.35	F1	F0
7 SD 16.4-17.6	El Cajon Blvd to I-8	Construct NB auxiliary lane	1.35	F1	F0
8 SD 17.6-20.6	I-8 to SR-163	Study HOV/Managed/Added Lanes	1.25	F0	F0
9 SD 20.6-23.7	SR-163 to SR-52	Study HOV/Managed/Added Lanes	1.26	F0	E
10 SD 24.5-25.9	0.2 km north of Governor Drive to La Jolla Village Dr/Miramar Rd	Construct new interchanges and auxiliary lanes (Phases I and II)	1.44	F2	F0
10 SD 23.7-27.1	SR-52 to Mira Mesa Blvd	Construct HOV/Managed/Added lanes	1.26	F0	F0
11 SD 27.1-28.5	Mira Mesa Blvd to I-5 (N)	Construct HOV/Managed/Added lanes	1.26	F1	E

D/C = Demand to Capacity

* Peak Hour Operating Level Of Service includes provision of state highway, transit and arterial improvements.
** Concept LOS is based on the SANDAG CMP minimum LOS standard.
***Project includes the realignment and widening of Olympic Parkway from the I-805 interchange to Brandywine Avenue.

TRANSPORTATION CONCEPT REPORT
INTERSTATE 805
11-SD-805 P.M. 0.5-28.5

INTRODUCTION AND STATEMENT OF PLANNING INTENT

The system planning process consists of three products: the District System Management Plan (DSMP), the Transportation System Development Plan (TSDP), and the TCR.

The DSMP describes how District 11intends to maintain, manage, and improve the District transportation system over the next 20 years. The DSMP is developed in partnership with regional and local transportation planning agencies. The DSMP summarizes 20 year planning concepts, proposed transportation improvements on a system wide level, and influences the development of future transportation concepts and development plans. It integrates land use, modal opportunities, regional arterial plans, transportation system management, transportation demand management, highway system improvements, and the District transportation network into a comprehensive transportation program. The DSMP serves as the foundation for the TSDP and TCRs.

The TSDP is an internal Caltrans system planning document. It's purpose is to identify, by district, a reasonable and effective list of multimodal transportation improvements (infrastructure/capital outlay), strategies, and demand and system management options to improve statewide, interregional and regional mobility and intermodal transfer of people and goods. It includes both a Recommended Plan and a Cost Constrained Plan component, and categorizes improvements in two time frames, 2001-2015 and post-2015. It is based on analysis of current and projected future travel demand. The TSDP replaces the District 11 Route Development Plan.

The TSDP is an internal "sketch" planning document that broadens the department's assessment of mobility options at a preliminary planning stage. It expands system planning from an analysis of state highway route deficiencies to an integrated intermodal and multimodal analysis of travel corridors. The TSDP joins the principles, practices, and concepts of the Advanced Transportation System Development (ATSD) program to system planning.

Improvements, strategies, and system management options identified in the TSDP will be Caltrans "candidates" for further detailed examination in state, metropolitan, regional or local studies and processes. The TSDP is also the department's initial identification of areas under consideration for major investment studies with metropolitan agencies and rail/transit operators.

The TCR process was discussed in the Transportation Concept Summary.

ROUTE DESCRIPTION

I-805 is a major north/south eight-lane freeway beginning at the south junction with I-5 near the Mexican Border and continuing 45.1 kilometers (28 miles) north to the north junction with I-5 in the northern area of the City of San Diego. The route runs roughly parallel to I-5, and traverses the central portion of the San Diego urbanized area.

I-805 was adopted as a freeway on September 27, 1960. The route was completed and opened to traffic in the early 1970's.

Nine State highways intersect I-805. They are I-5, I-905, State Route 54 (SR-54), SR-94, I-15, I-8, SR-163, SR-274 and SR-52.

Purpose of Route

The primary purposes of I-805 are to provide north-south movement of traffic through the San Diego urbanized area and to provide an alternative route for I-5 traffic to bypass the congested Central Business District (CBD). It provides direct access to the major employment centers located in Kearny Mesa, the University City area, and Sorrento Valley, and acts as a major commuter route.

Existing Facility Classifications

The federal functional classification of I-805 is Interstate. The entire length is designated as part of the national network for Surface Transportation Assistance Act (STAA) trucks. In addition, the section of this route from I-15 to the northern junction with I-5 (P.M. 14.6-28.5) is part of the Subsystem of Highways for the Movement of Extralegal Permit Loads (SHELL).

The National Highway System (NHS) Designation Act of 1995 was enacted by Congress in November, 1995. The purpose of the NHS is to provide an integrated national highway system that serves both urban and rural America; to connect major population centers, international border crossings, ports, airports, public transportation facilities, and other major travel destinations; to meet national defense requirements; and to serve interstate and interregional travel. The NHS includes the Interstate System routes. In Caltrans District 11, the NHS totals 789.0 km (490.3 miles). All of I-805 is included in the NHS.

To emphasize corridors that are most essential to the California economy in terms of national and international trade, a transportation network known as the Intermodal Corridors of Economic Significance (ICES) has been developed. To be included in the

ICES system, a route should provide access between major freight intermodal facilities and serve freight traffic with the North American Free Trade Agreement (NAFTA) countries of Canada and Mexico, as well as the Pacific Rim and other U.S. trade markets. Included routes should carry high interstate and international freight volumes and value important to the economy of California. The portion of I-805 from I-5 (P.M. 0.5) to I-15 (P.M. 14.6) is included in the ICES system.
California Senate Bill 300, enacted in 1989, created an Interregional Road System (IRRS). Subsequently, Section 164.3 of the California Streets and Highways Code directed Caltrans to develop and submit to the Legislature an Interregional Road System Plan by February 1, 1990. In accordance with this plan, the IRRS is a series of interregional state highway routes outside the urbanized areas that provides access to, and links between, the state's economic centers, major recreational areas, and urban and rural regions. I-805 is not included as part of the IRRS, nor is it included in the California Interregional Transportation Strategic Plan (June 1998). I-805 is not included as part of the California State Scenic Highway System. Also, it is not part of the designated Lifeline system.

For maintenance programming purposes, the State Highway System has been classified as Class 1, 2, and 3 highways based on the Maintenance Service Level (MSL) descriptive definitions. The MSL 1 designation contains route segments in urban areas functionally classified as Interstate, Other Principal Arterial - Freeway or Expressway, or Other Principal Arterial. MSL 2 contains route segments classified as an Other Principal Arterial - Freeway or Expressway or Other Principal Arterial not in MSL 1, and route segments functionally classified as minor arterials not in MSL 3. MSL 3 indicates a route or route segment with the lowest maintenance priority. Typically, MSL 3 contains route segments functionally classified as major or minor collectors and local roads, route segments with relatively low traffic volumes, and route segments being considered for relinquishment, rescission, or where a new alignment will replace the existing facility. Route segments where the District does not anticipate spending money and route segments where route continuity is necessary are also assigned an MSL 3 designation. I-805 is classified as a MSL 1 throughout the entire length of the route.

Route Segments

I-805 is divided into 11 segments for traffic analysis purposes. Table 1 lists these segments, post-miles, locations, number of lanes, facility type and whether the segment is in an urban or rural area.

TABLE 1
ROUTE SEGMENTATION

Segment/ County/ Post Mile	Location	# of Lanes/ Facility Type	Urban/Rural
1 SD 0.5 - 1.8	I-5 to SR-905	8F/10F	U
2 SD 1.8 - 2.9	SR-905 to Palm Avenue	8F	U
3 SD 2.9 - 7.2	Palm Avenue to H Street	8F/10F	U
4 SD 7.2 - 8.9	H Street to SR-54	8F/10F	U
5 SD 8.9 - 13.5	SR-54 to SR-94	8F/10F	U

6	SD 13.5 - 14.6	SR-94 to I-15	8F/10F	U
7	SD 14.6 - 17.6	I-15 to I-8	8F/10F	U
8	SD 17.6 - 20.6	I-8 to SR-163	8F/10F	U
9	SD 20.6 - 23.7	SR-163 to SR-52	8F/10F	U
10	SD 23.7 - 27.1	SR-52 to Mira Mesa Blvd	8F/10F	U
11	SD 27.1 - 28.5	Mira Mesa Blvd to I-5	8F/10F	U

Existing Facility

Interstate 805 varies between 8 and 10 freeway lanes with auxiliary lanes at various locations along the facility. I-805 has 3.7 meter (12 foot) lane widths, 2.4 to 4.0 meter (8 to13 foot) outside shoulders, 1.8 to 2.4 meter (6 to 8 foot) inside shoulders, and a 88 to 229 meter (290 to 750) foot maximum right of way width. Most segments have a flat gradeline while the remaining segments have either a rolling or a combination flat and rolling gradeline.

A physical description of the existing facility geometrics in a segment-specific format is shown in Table 2.

TABLE 2
EXISTING FACILITY GEOMETRICS

Segment/ County Post Mile	No. Lanes/ Facility Width	Outside Shoulder Width	Inside Shoulder Width	Maximum R/W Width	Median Width	Grade Line
1 SD 0.5 - 1.8	8F/10F *@ 3.7 (12)	3.0 (10)	1.8-2.4 (6-8)	109.7 (360)	12.2-30.2 (40-99)	F
2 SD 1.8 - 2.9	8F @ 3.7 (12)	3.0 (10)	1.8-2.4 (6-8)	97.5 (320)	14.0 (46)	R
3 SD 2.9 - 7.2	8F/10F @ 3.7 (12)	2.4-3.0 (8-10)	1.8-2.4 (6-8)	99.1-115.8 (325-380)	12.8-14.0 (42-46)	F&R
4 SD 7.2 - 8.9	8F/10F @ 3.7 (12)	2.4-3.0 (8-10)	2.4 (8)	152.4 (500)	12.8-14.0 (42-46)	F
5 SD 8.9 - 13.5	8F/10F @ 3.7 (12)	2.4-3.0 (8-10)	2.4 (8)	106.7-167.6 (350-550)	9.1-18.3 (30-60)	F
6 SD 13.5 - 14.6	8F/10F @ 3.7 (12)	3.0 (10)	2.4 (8)	121.9-228.6 (400-750)	9.1 (30)	F
7 SD 14.6 - 17.6	8F/10F @ 3.7 (12)	2.4-3.0 (8-10)	2.4 (8)	97.5 (320)	9.1 (30)	R
8 SD 17.6 - 20.6	8F/10F @ 3.7 (12)	3.0 (10)	2.4 (8)	115.8 (380)	4.3-9.1 (14-30)	R
9 SD 20.6 - 23.7	8F/10F @ 3.7 (12)	3.0-4.0 (10-13)	2.4 (8)	94.5-103.6 (310-340)	9.1-14.0 (30-46)	F
10 SD 23.7 - 27.1	8F/10F @ 3.7 (12)	3.0-4.0 (10-13)	2.4 (8)	121.9-182.9 (400-600)	9.1-14.0 (30-46)	F&R
11 SD 27.1 - 28.5	8F/10F @ 3.7 (12)	4.0 (13)	2.4 (8)	88.4 (290)	9.1-14.0 (30-46)	F

8F = Eight lane freeway
10F = Ten lane freeway
F = Flat
R = Rolling
R/W = Right of Way

Note: Widths are in meters
( ) Widths in feet.

*Only a portion of the segment is 10F.

The location, direction and number of auxiliary lanes on I-805 are shown in Table 3.

TABLE 3
EXISTING AUXILIARY LANES

Location	Direction	Number
San Ysidro to I-905	Northbound	1
I-905 to Palm Ave	Southbound	1
Palm Ave to Otay Valley Rd	Northbound	1
Palm Ave to Otay Valley Rd	Southbound	1
Telegraph Canyon Rd to J St	Southbound	1
J St to Bonita Rd	Northbound	3*
J St to Bonita Rd	Southbound	1
Bonita Rd to Sweetwater Rd ramp	Northbound	3*
Bonita Rd to Sweetwater Rd ramp	Southbound	1
Sweetwater Rd ramp to SR-54	Northbound	2
SR-54 to Plaza Blvd	Southbound	1
Plaza Blvd to Palm Ave	Northbound	2
Palm Ave to 43rd St	Northbound	2
Palm Ave to 43rd St	Southbound	1
43rd St to Imperial Ave	Southbound	1
Imperial Ave to Market St	Northbound	2
Imperial Ave to Market St	Southbound	2
Market St to SR-94	Northbound	1
SR-94 to Home Ave	Southbound	1
Home Ave to I-15	Northbound	1
Home Ave to I-15	Southbound	1
I-15 to University Ave	Northbound	1
I-15 to University Ave	Southbound	2
University Ave to Orange Ave	Northbound	1
University Ave to Orange Ave	Southbound	1
Orange Ave to El Cajon Blvd	Northbound	1
El Cajon Blvd to Adams Ave	Southbound	1
Adams Ave to I-8	Northbound	1
I-8 to Murray Ridge Rd	Southbound	2
Kearny Villa Rd to SR-163	Northbound	1
SR-163 to SR-274 (Balboa Ave)	Northbound	2
SR-163 to SR-274 (Balboa Ave)	Southbound	2
SR-274 (Balboa Ave) to Governor Dr	Northbound	1
SR-274 (Balboa Ave) to Governor Dr	Southbound	1
Governor Dr to Miramar Rd	Northbound	1
Eastgate Mall to Mira Mesa Blvd	Northbound	1
Mira Mesa Blvd to Sorrento Valley Blvd	Southbound	2
Sorrento Valley Blvd to I-5	Southbound	2

*Includes 2 connector lanes

Ramp Meters

Freeway ramp meters are designed to maximize the freeway's full capacity, reduce traffic congestion and accidents, and reduce motorist delays by improving commuter peak period travel times. Metered ramps control the rate at which traffic enters the freeway. In many cases, special lanes are provided on these ramps for carpools, vanpools and buses. Central computer control ramp metering is responsive to real time traffic speeds, volumes and congestion levels, and the metering rate can be adjusted as appropriate. Table 4 lists existing ramp meter locations along I-805.

TABLE 4
EXISTING RAMP METERS

Post Mile	Southbound	Post Mile	Northbound
R25.9	Miramar Road	R10.2	Plaza Boulevard
R25.5	La Jolla Village Drive	R11.3	47th Street
R24.3	Governor Drive	R11.7	43rd Street/Route 252
R22.5	Clairemont Mesa Blvd WB	R12.4	Imperial Avenue
R22.4	Clairemont Mesa Blvd EB	R13.2	Market Street
R21.5	Balboa Avenue WB	R14.0	Home Avenue
R21.4	Balboa Avenue EB	R15.9	University Avenue
R19.8	Mesa College Drive	R16.5	El Cajon Boulevard
R18.6	Murray Ridge Road		

Parallel Arterials

There are two significant arterial streets paralleling I-805 that provide an alternative to commuters wishing to avoid peak hour congestion on the freeway. These major local arterials have the potential to serve as alternative routes for commuters. Currently, these streets fail to provide an effective alternative due to physical inadequacies, numerous traffic signals, access conflicts, and general traffic congestion. Improvements will be required in order to provide efficient alternatives for commuters. Listed in Table 5 are the two arterial streets that parallel I-805.

TABLE 5
PARALLEL ARTERIALS

Arterial Name	Description
Euclid Avenue	SR-54 to SR-94
Genesee Avenue	SR-163 to I-5

Park and Ride

Park and ride facilities encourage and support the use of commuter or express transit bus and car/vanpooling for a portion of longer vehicle trips and consequently reduce vehicle miles of travel within the San Diego region. There are four Park and Ride lots near or adjacent to I-805. They are at the following locations:

- Paseo Del Rey/Telegraph Canyon Road
- I-805 at SR-54
- I-805 at Governor Drive
- I-805 at Vista Sorrento Parkway

There are some transit options available within the I-805 corridor. Existing bus transit on Interstate 805 consists of two routes, one of which is an express route. The express route (40), operates between El Cajon and downtown San Diego. This route travels

non-stop, with 30 minute headways, on the facility from I-8 (P.M. 17.6) to I-15/SR-94 (P.M. 14.6). Route 21, the non-express option, traverses between Mira Mesa Boulevard and University Town Centre. It operates non-stop on I-805 between Mira Mesa Boulevard (P.M. 27.1) and La Jolla Village Drive/Miramar Road (P.M. 25.9). Further discussion of transit options is included in the transit component of the Concept Rationale section of this report.

The San Diego Trolley intersects I-805 at three locations. The first, near the international border, is at P.M. 0.7, and the second, between Market Street and Imperial Avenue, is at P.M. 12.6. Interstate 8 is the site of the third intersection, at P.M. 17.6.

Bicycles

Shoulders are open to bicycle travel between Palm Avenue (P.M. 2.9) and Otay Valley Road (P.M. 3.7).

ROUTE ANALYSIS

This section further discusses existing conditions and introduces future Post-1998 State Transportation Improvement Program (STIP)/No Build conditions for I-805. This section also includes a corridor growth and demographic analysis for existing and future conditions in the I-805 corridor.

Existing and Future (2020 No Build) Operating Conditions

Table 6 shows existing and future operating conditions for I-805. Existing conditions reflect 1997 data. Future conditions are based on Caltrans traffic projections and the San Diego Association of Governments (SANDAG) Series 8 Regional Population and Employment forecasts for the year 2020. Future No Build conditions assume completion of only those projects in the local transportation sales tax program (TransNet) and the 1998 STIP.

TABLE 6
EXISTING AND FUTURE (2020 NO BUILD) OPERATING CONDITIONS

County/P.M.	Location	Year	No.Lanes/ Facility Type	ADT	Peak Hour D/C Ratio	Peak Hour Operating LOS*
1 SD 0.5 - 1.8	I-5 to SR-905	1997	8F	48 600	0.30	A
		2020	8F	56 600	0.47	B
2 SD 1.8 - 2.9	SR-905 to Palm Avenue	1997	8F	85 500	0.52	B
		2020	8F	165 000	1.25	F0
3 SD 2.9 - 7.2	Palm Avenue to H Street	1997	8F	133 600	0.66	C
		2020	8F	221 300	1.31	F1
4 SD 7.2 - 8.9	H Street to SR-54	1997	8F	186 200	1.02	F0
		2020	8F	279 000	1.52	F3
5 SD 8.9 - 13.5	SR-54 to SR-94	1997	8F	195 800	0.97	E
		2020	8F	242 600	1.26	F0
6 SD 13.5 - 14.6	SR-94 to I-15	1997	8F	203 700	1.18	F0
		2020	8F	223 000	1.30	F1
7 SD 14.6 - 17.6	I-15 to I-8	1997	8F	225 600	1.11	F0
		2020	8F	278 300	1.49	F3
8 SD 17.6 - 20.6	I-8 to SR-163	1997	10F	216 100	1.05	F0
		2020	10F	258 400	1.31	F1
9 SD 20.6 - 23.7	SR-163 to SR-52	1997	8F	180 400	0.95	E
		2020	8F	221 600	1.23	F0
10 SD 23.7 - 27.1	SR-52 to Mira Mesa Blvd	1997	8F	178 500	1.00	E
		2020	8F	235 400	1.39	F2
11 SD 27.1 - 28.5	Mira Mesa Blvd to I-5	1997	8F	122 100	0.56	B
		2020	8F	169 000	0.96	E

ADT = Average Daily Traffic
D/C = Demand to Capacity

*Peak Hour Operating Level of Service includes provision of state highway, transit and arterial improvements.

Accident data for the three year period from August 1, 1995 to August 1, 1998 was analyzed for each segment of I-805. The actual total accident rate per million vehicle miles is compared with the average total accident rate per million vehicle miles, for similar State facilities. Based on this criteria, there are no accident concerns on I-805.

Corridor Growth and Demographics

The SANDAG Series 8 Regional Population and Employment Forecast anticipates a population growth change in the San Diego Region from 2.50 million people in 1990 to 3.76 million people in 2015. This represents a 50.4 percent increase in population. Series 8 also projects the housing stock in the San Diego region will increase from 946 240 units in 1990 to 1 371 971 units in 2015, a 45.0 percent change. The total labor force is also expected to grow from 1 198 265 workers in 1990 to 1 561 394 workers in 2015, an increase of 30.3 percent. This growth will create a demand for additional public facilities. Complementary land use and transportation improvements will be required.

The SANDAG Regional Growth Management Strategy (January,1993) was developed to ensure that the impacts of this projected regional growth do not cause our quality of life to suffer. The Strategy is made up of four components: quality of life factors,

standards and objectives; recommended actions; consistency with local/regional plans; and monitoring of the SANDAG growth forecast. Recommendations regarding public facilities financing and siting, as well as land use phasing and distribution, are also included.

Table 7 shows current and projected population figures for the three jurisdictions that Interstate 805 traverses within San Diego County. Tijuana, Mexico population projections are also included.

TABLE 7
POPULATION, HOUSING AND EMPLOYMENT GROWTH,
SELECTED SAN DIEGO COUNTY JURISDICTIONS

Jurisdiction	1990	2000	2015	1990-2015 % Change
	Population	**Population**	**Population**	
Chula Vista	135 163	167 496	173 001	28
National City	54 249	59 189	62 866	16
San Diego	1 110 549	1 314 248	1 573 656	42
	Housing	**Housing**	**Housing**	
Chula Vista	49 849	56 626	61 047	22
National City	15 243	15 810	17 639	16
San Diego	431 722	473 187	591 473	37
	Employment	**Employment**	**Employment**	
Chula Vista	49 811	52 767	65 443	31
National City	31 395	33 181	38 477	23
San Diego	668 512	687 978	822 468	23
	Population	**Population**	**Population**	
Tijuana, Mexico	747 381	1 268 830	1 500 000	101

Source: SANDAG

The land use along the I-805 corridor generally consists of a variable development mix of shopping centers, regional employment, education centers, and single family and multiple unit residential developments. Several major employment centers, including the Miramar Marine Corps Air Station, near the I-805 corridor generate significant traffic volumes. Table 8 lists current and future population, housing and employment data for selected subregional areas.

TABLE 8
POPULATION, HOUSING AND EMPLOYMENT GROWTH,
SELECTED SUBREGIONAL AREAS

Subregional Area	1990	2000	2015	1990-2015 % Change
	Population	**Population**	**Population**	
South Bay	116 465	145 771	214 441	84.1
Chula Vista	99 671	108 412	110 482	10.8
National City	54 078	58 814	62 574	15.7
Southeast San Diego	147 489	164 659	178 542	21.1
Central San Diego	154 354	182 940	236 687	53.3
Kearny Mesa	137 165	151 487	158 100	15.3
University	42 725	51 611	57 496	34.6
	Housing	**Housing**	**Housing**	
South Bay	33 289	39 531	61 583	85.0
Chula Vista	37 959	38 332	40 749	7.4
National City	15 191	15 677	17 558	15.6
Southeast San Diego	42 601	44 735	51 065	19.9
Central San Diego	66 298	74 020	105 420	59.0
Kearny Mesa	55 169	56 804	62 901	14.0
University	19 605	22 064	25 535	30.2
	Employment	**Employment**	**Employment**	
South Bay	22 056	28 893	68 876	212.3
Chula Vista	41 560	42 895	49 893	20.1
National City	30 092	31 983	36 914	22.7
Southeast San Diego	16 603	17 143	19 816	19.4
Central San Diego	153 143	157 616	183 022	19.5
Kearny Mesa	144 694	146 397	165 259	14.2
University	52 954	55 382	63 275	19.5

Source: SANDAG

Another methodology to ensure compatibility between land use and the statewide transportation system is the Caltrans Development Review process. Potential development projects are reviewed to determine what impacts they may have on State transportation facilities. Impacts can include level of service changes, right of way protection issues, operations and/or maintenance issues, or growth inducing/cumulative impacts. Development Review also analyzes proposed developments to ensure consistency with regional and State transportation planning documents.

Potential major development projects within the I-805 corridor that will significantly increase congestion on area surface streets, freeway interchanges, and on I-805 are shown in Table 9. Each of these projects is expected to generate at least 10 000 daily trips. Although not listed in the table, there are a substantial number of smaller development projects that may have a cumulative impact on traffic in the corridor. The table includes projects for which an Environmental Impact Report, a Specific Plan or a Master Plan has been or will be prepared. Because of uncertainties associated with the

existing and future socioeconomic and political climates, the scale of development may be subject to change, and it is possible that some of the listed projects may not be developed.

TABLE 9
POTENTIAL TRIP INDUCING MAJOR DEVELOPMENT PROJECTS

Segment	Proposed Development	D.U.	Comm/Ind square meters (square feet)	Acreage hectares (acres)		Trips Generated Daily
2	Kaiser South San Diego Medical Offices		18 394 (198 000)	13	(31)	12 900
2/3	Hidden Trails	962		92	(226)	12 300
2/3	California Terraces			269	(665)	50 900
3	Robinhood Ridge	1 150		125	(310)	17 000
3	Eastlake Trails	1 900		123	(305)	48 800
3	Otay Ranch SPA I	2 410		439	(1 084)	21 900
5	North Creek		27 870 (300 000)			21 000
10/11	Sorrento Towers South		46 636 (502 000)			10 000

D.U. = Dwelling Unit
Comm/Ind = Commercial/Industrial

TRANSPORTATION CONCEPT (2020)

The 2020 Transportation Concept includes State highway, transit service, system management and travel reduction, goods movement, international border, aviation and nonmotorized components. The State highway components are listed in Table 10, while the other components are discussed in the Concept Rationale section. These components are examined in segments for traffic analysis and other purposes. The segmentation shown is for planning purposes only and is subject to change pending further studies or project related activities. The State highway component is comprised of the facility type and the number of lanes for 2020, the ADT for 2020, the peak hour Demand to Capacity (D/C) Ratio for 2020, the peak hour Operating Level of Service (LOS) for 2020, and the Transportation Concept LOS for 2020. The 2020 traffic projections for Interstate 805 (I-805) are based on the San Diego Association of Government's (SANDAG) Series 8 regional population and employment forecasts and assume completion of the future regional transportation system. The 2020 traffic projections are subject to change based on periodic traffic forecasting model adjustments and ongoing supplemental transportation studies.

The 2020 peak hour Operating LOS includes all proposed transit service and State highway improvements. It also includes expansion and greater utilization of the existing arterial street network. Even with the inclusion of the proposed highway, transit and arterial improvements, and an increase in person trips, the 2020 peak hour Operating LOS for I-805 for segments 2 through 11 will be deficient.

The 2020 Transportation Concept LOS is based on the SANDAG Congestion Management Program (CMP). The CMP minimum standard of LOS "E" is the 2020 Transportation Concept LOS for most segments of I-805. The 2020 Transportation

Concept LOS for Segments 6 through 8 and Segment 10 is LOS "F0". This is based on the *1996 CMP Update* in the *SANDAG 1997 Regional Transportation Plan (RTP)*.

The 2020 peak hour Operating LOS is equal to or better than the minimum CMP standard in Segments 1, 8 and 10. In the remaining segments, additional improvements such as the implementation of Transportation Control Measure (TCM), Transportation System Management (TSM), and Transportation Demand Management (TDM) strategies will be needed.

The 2020 Transportation Concept LOS for the High Occupancy Vehicle (HOV) lanes is LOS "C" and is based on the Caltrans District 11 minimum HOV LOS standard.

TABLE 10
2020 TRANSPORTATION CONCEPT

Segment/ County/ Post Mile	Location	# of Lanes/ Facility Type	ADT**	Peak Hour D/C Ratio	Peak Hour Operating LOS ***	Concept LOS ****
1 SD 0.5 - 1.8	I-5 to SR-905	8F	78 100	0.64	C	E
2 SD 1.8 - 2.9	SR-905 to Palm Avenue	8F + Study HOV/ Managed/AddedLanes	141 300	1.08	F0	E
3 SD 2.9 - 7.2	Palm Avenue to H Street	8F + Study HOV/ Managed/AddedLanes	205 900	1.24	F0	E
4 SD 7.2 - 8.9	H Street to SR-54	8F + Study HOV/ Managed/AddedLanes	263 600	1.46	F2	E
5 SD 8.9 - 13.5	SR-54 to SR-94	8F + Study HOV/ Managed/AddedLanes	238 900	1.25	F0	E
6 SD 13.5 - 14.6	SR-94 to I-15	8F + Study HOV/ Managed/AddedLanes	256 200	1.44	F2	F0
7 SD 14.6 - 17.6	I-15 to I-8	8F + Study HOV/ Managed/AddedLanes	240 300	1.35	F1	F0
8 SD 17.6 - 20.6	I-8 to SR-163	10F + Study HOV/ Managed/AddedLanes	242 500	1.25	F0	F0
9 SD 20.6 - 23.7	SR-163 to SR-52	8F + Study HOV/ Managed/AddedLanes	230 200	1.26	F0	E
10 SD 23.7 - 27.1	SR-52 to Mira Mesa Blvd	8F + 2 HOV*	261 400	1.26	F0	F0
11 SD 27.1 - 28.5	Mira Mesa Blvd to I-5	8F + 2 HOV*	220 800	1.26	F1	E

ADT = Average Daily Traffic
HOV = High Occupancy Vehicle lanes
8F = Eight lane freeway
10F = Ten lane freeway

The Concept LOS for the HOV lanes is LOS "C".
** ADTs are from SANDAG Series 8 2020 (1996 RTP Preferred) Traffic Forecasting Model plots, July, 1996 and are subject to change.
*** Peak Hour Operating Level Of Service includes provision of state highway, transit and arterial improvements.
**** Concept LOS is based on the SANDAG CMP minimum LOS standard.

CONCEPT RATIONALE

An intermodal approach is necessary in order to provide for the projected increased person-trips in the I-805 corridor. This approach utilizes a wide variety of transportation improvement components to help achieve the 2020 Transportation Concept LOS.

Highway Component

The State highway component of the Concept includes the provision for HOV/Managed/Added lanes for Segments 10 and 11 (SR-52 to I-5). This project is listed in the *District 11 HOV System Plan*, the *SANDAG 1996 RTP* and the *District 11 1995 TSDP.* It is also part of a project on I-5 which will build HOV/Managed/Added lanes from the I-5/I-805 separation to SR-76. The I-5 project is included in the *District 11 Status of Projects*, dated April 29, 1999. The highway component also includes a study for the development of HOV/Managed/General Purpose/Added lanes between SR-905 and SR-52.

A new interchange will be constructed at Telegraph Canyon Road in Segment 3 (Palm Avenue to H Street). The project completion date is estimated to be May 2000 and is listed in the *District 11 Status of Projects* dated April 29, 1999.

For Segment 10 (SR-52 to Mira Mesa Boulevard), a new interchange at Nobel Drive is planned as part of the 2020 Transportation Concept. This project will be constructed in two phases. Phase 1 consists of the following three activities: 1) extending Nobel Drive from Shoreline Drive to Miramar Road 2) building a half-diamond interchange at Nobel Drive and 3) adding auxiliary lanes between Governor Drive and Nobel Drive. Construction of the first phase is scheduled to begin during the fall of 1999 and should be completed by the winter of 2001. Phase 2 is also comprised of three parts: 1) widening Miramar Road 2) revising the La Jolla Village Drive/Miramar Road interchange and 3) widening the Governor Drive overcrossing. The construction of this phase is scheduled to start in 2004. Information on the Nobel Drive interchange project can be found in the *District 11 Status of Projects*, dated April 29, 1999, and the *SANDAG 1996 RTP*.

The City of Chula Vista has proposed two projects that will impact the Orange Avenue interchange in Segment 3 (Palm Avenue to H Street). One project is to revise the existing interchange from 0.7 km (0.4 miles) south to 0.8 km (0.5 miles) north of Orange Avenue. The second project involves the realignment and widening of Olympic Parkway from the I-805 interchange to the Brandywine Avenue intersection. Some of the facility improvements that will occur from both projects are as follows: 1) widening the existing Orange Avenue overcrossing 2) widening of Orange Avenue 3) realignment and widening of Olympic Parkway and 4) constructing auxiliary lanes between Orange Avenue and Otay Valley Road. Construction will begin by 2001. These two projects, combined into one, are listed in the *District 11 Status of Projects*, dated April 29, 1999. A draft Project Study Report has been prepared outlining the details for both proposals.

Another future highway improvement will be the construction of a northbound auxiliary lane in Segment 7 between El Cajon Boulevard and I-8. This project is part of the Caltrans *Traffic Operation Plan for Southern California (TOPS).*

For all segments, operational and safety improvements, auxiliary lanes, and ramp metering will be provided where necessary.

Transit Component

The transit component of the 2020 Transportation Concept for I-805 is comprised of three potential projects. Two are express bus routes and the third is a light rail transit corridor extension.

SANDAG used a two-step evaluation process to identify future Regional Transit Corridors. Two such corridors, with express bus service as the transit mode, are included in their *1996 RTP* as part of the Preferred Transit Plan for 2020. The first route would travel on I-805 between SR-905 and I-8. The second would offer service between the Clairemont Mesa Boulevard and SR-56. These buses would traverse I-805 from Clairemont Mesa Boulevard to I-5.

Currently under study by the Metropolitan Transit Development Board (MTDB) is the light rail service known as the South Bay Extension. This project would offer light rail transportation between the Otay Mesa border crossing and the I-5/SR-54 intersection. The route would parallel I-805 from L Street in Chula Vista to SR-54. Both the *SANDAG 1996 RTP* and the *MTDB Short-Range Transit Plan FY 1999-2003* reference this light rail improvement.

I-805 is used as a major transit corridor for Tijuana/Los Angeles/Central California direct interregional buses. There are no San Diego stops.

System Management and Travel Reduction Component

Another component of the 2020 Transportation Concept is greater utilization and expansion of the existing and proposed arterial street network in the corridor. These arterial improvements are expected to substantially increase mobility and reduce peak period demands on the freeway. They can provide routes for short intraregional trips and even provide an alternative route for some regional trips. Corridor capacity can be increased by realignment and/or widening, correcting physical inadequacies, minimizing side friction, and improving the traffic flows of arterials within the corridor. Improvements include preferential signal treatment, limitation and separation of left-turn movements, limited driveway and other access controls, and surface street HOV lanes for ridesharing and transit.

SANDAG has been coordinating the development of the *1995 Regional Arterial System Project Priority List* which includes unfunded/underfunded candidate projects that could compete for discretionary transportation funding allocations. An additional study related to arterial street improvements is the SANDAG *Traffic Signal Optimization Program* (April, 1994). This program was developed to enhance inter-jurisdictional coordination, to provide detailed guidelines for the implementation of a county-wide traffic management system, and to identify a conceptual plan for future implementation of Intelligent Transportation System technologies. The proposed signal system

improvements are expected to significantly reduce vehicle emissions and traffic congestion.

TSM improvements are expected to optimize traffic flow on the existing transportation systems within the I-805 corridor. Specifically, ramp meters will be installed on a variety of locations along I-805. The TSM Project Priority List provides some guidance regarding future locations for ramp meter installations. HOV bypass lanes will also be provided on appropriate ramps where feasible to encourage high occupancy vehicle use. Table 11 lists the proposed ramp meter locations, directions and post miles for Interstate 805.

In addition to the aforementioned Traffic Signal Optimization Program, air quality improvements will be achieved primarily by the implementation of TCMs. The goal of the *Transportation Control Measures for the Air Quality Plan* report developed by SANDAG in March, 1992 is to reduce traffic congestion and motor vehicle emissions in the San Diego air basin in order to meet the requirements of the state's Congestion Management Act, the California Clean Air Act (CCAA) of 1988, and the federal Clean Air Act Amendment (CAA) of 1990. The components of this report include a commute travel reduction program, a college travel reduction program, a goods movement /truck operation control program, a Transportation Capacity Expansion Program, a Traffic Systems Management Program, and an Indirect Source Control Program which includes a general travel reduction program and a land use program. TCM improvements are intended to reduce travel demand during peak period traffic hours. Additional TCM components include staggered work hours, parking management, developer and employer incentives, and implementation of ordinances.

TSM and TCM air quality improvements tend to overlap and work synergistically. The total effect of these improvements will improve air quality, will assist in alleviating traffic congestion, and will result in an increased number of person-trips within the I-805 corridor.

Another system management component is the development of the *Traffic Operation Plan for Southern California (TOPS)* (Preliminary Draft, January, 1997). This plan is being developed jointly by Caltrans' District 7 (Los Angeles), District 8 (San Bernardino), District 11 (San Diego) and District 12 (Santa Ana). The District 11 traffic operation actions focus on three key strategies: 1) completion of the Integrated Traffic Management System; 2) implementation of the reversible Managed Lanes Concept on I-5 and I-15; and 3) the addition of auxiliary lanes at 27 locations throughout the District. There are various improvements for I-805 listed in the Traffic Operations Strategies - Five Year Plan List of Projects. One of the Advanced Transportation Management System projects is a fiber optics/closed circuit cable television monitoring system planned for Segments 5 through 11 (SR-54 to I-5). Another project will install a changeable message sign, on northbound I-805, prior to the I-5 north junction. Ramp meters are also included as part of the TOPS plan.

TABLE 11
PROPOSED RAMP METERS

Ramp	Direction	Post Mile
Route 905	NB	1.81
Route 905	SB	1.82
Palm Avenue	NB	2.09
Otay Valley Road	NB	3.65
Otay Valley Road	SB	3.66
Orange Avenue	NB	4.42
Orange Avenue	SB	4.43
Telegraph Canyon Road	NB	6.06
Telegraph Canyon Road	SB	6.07
H Street EB	NB	7.16
H Street	SB	7.17
H Street WB	NB	7.20
Bonita Road	NB	7.76
Bonita Road	SB	7.77
Route 54 Connector	NB	8.85
Plaza Blvd	SB	10.28
47th Street	SB	11.31
Imperial Avenue	SB	12.34
Market Street	SB	12.95
Route 94 Connector	SB	13.51
Home Avenue	SB	13.95
Route 15	SB	14.64
University Avenue	SB	15.95
El Cajon Blvd	SB	16.43
Mira Mesa Blvd EB	SB	27.07
Mira Mesa Blvd WB	SB	27.10
Mira Mesa Blvd	NB	27.70

An additional TSM measure in the 2020 Transportation Concept includes the provision of additional Park and Ride facilities in appropriate locations within the I-805 corridor. The consultant-prepared *San Diego Regional Park and Ride Study* (March, 1994), which analyzed and evaluated several planned and potential Park and Ride lot locations throughout the San Diego Region, includes the I-805 corridor. Two potential Park and Ride lot locations are: 1) I-805 at East H Street, and 2) Balboa Avenue/Kearny Villa Road.

Goods Movement Component

Under the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, additional emphasis was placed on the movement of goods in an integrated transportation network. It is essential to identify critical elements within major goods movement corridors in order to develop effective strategies for managing, maintaining and improving transportation system connectivity. Goods movement planning incorporates analysis of impacts on noise, air quality, land use, congestion and safety. Goods movement issues have a significant economic impact on our regional economy. The

movement of goods in San Diego involves the systems of rail, ports and shipping, trucking, and air cargo.
On June 9, 1998, the President signed into law PL 105-178, the Transportation Equity Act for the 21st Century (TEA-21), authorizing highway, highway safety, transit and other surface transportation programs for the next 6 years. TEA-21 builds on the initiatives established in ISTEA. The Act adds programs that address traffic safety, economic competitiveness and international trade.

Trucking plays an important role in goods movement along the I-805 corridor. Historical data shows an increase in both freeway and non-freeway light duty and heavy duty truck traffic over the years. I-805 is part of a national truck route network designated by the 1982 Surface Transportation Assistance Act (STAA). One section of I-805, from I-5 to I-15, is part of the transportation network known as the Intermodal Corridors of Economic Significance (ICES).

International Border Component

ISTEA also required studying the advisability of establishing a discretionary international border crossing program and the development of a multimodal assessment of existing and emerging international trade corridors within Canada, Mexico and the United States. Because of District 11's geographic location adjacent to the State of Baja California, Mexico, and the passage of NAFTA, it is expected that transportation and trade issues related to the California/Mexico International border will increase in importance in the future. I-805 is considered part of the International Border Trade Corridor.

The NAFTA NET is a transportation network which links the Ports-of-Entry (POEs) and the international border region to the existing transportation system. The overall goals of NAFTA NET include facilitating and increasing trade of goods and services, ensuring a safe cross border trucking industry and improving the multimodal transportation network leading to the major international border crossings. Caltrans has identified the transportation corridors in District 11 which comprise the NAFTA NET. In San Diego County, NAFTA NET routes include SR-94, SR-125, SR-188, SR-905 and Otay Mesa Road. However, I-5 and I-805 are an important goods movement route that accommodates a substantial amount of commercial vehicle traffic between Mexico (via the Otay Mesa POE and Route 905) and California and the United States. The primary commercial truck crossing is at the Otay Mesa POE. After entering the United States, trucks travel westbound on SR-905. Many of these vehicles then head north on I-805.

There are several additional proposed short term and long term improvements to border area transportation systems that will improve, and provide access to, the existing and future international Port-of-Entry facilities. In addition, there are numerous planning studies underway related to transborder transportation and goods movement activities. Detailed information regarding these improvements and studies can be found in the Caltrans report entitled *Transportation Issues Along the California/Mexico Border* (December, 1996 draft).

Aviation Component

The aviation component for I-805 includes Brown Field, a commercial airport providing private aircraft services. It is located to the east of the I-805 corridor. Annual operations at Brown Field consisted of 130 000 in 1995, the last year for which information is available. There are 205 aircraft based at Brown Field which has a current capacity of 235 permanent aircraft parking sites. Forecasted annual operations for 2005 are estimated at 322 000, with the number of based aircraft expected to increase to 474. Brown Field is the third busiest general aviation airport in San Diego County. The City of San Diego is currently updating the master plan for this facility to ensure the predicted increase in general aviation and air freight activity can be accomodated.

Rodriguez Field in Tijuana, just across the border from Brown Field, handles close to three million passengers and is Mexico's fourth largest airport. About thirty percent of the traffic has origins and/or destinations in the U.S. Some of this airport traffic may utilize I-805.

Nonmotorized Component

The Nonmotorized Component includes continued utilization of the existing Regional Bikeway System, the Bus Bicycle Rack Program and the Bicycle Locker program at Park and Ride lots. Within the I-805 corridor, bicyclists use a number of bike paths, bike lanes and bike routes that are part of the Regional Bikeway System. Additional bicycle facilities are planned for numerous surface streets within the I-805 corridor.

AIR QUALITY

Air Pollution Control Districts (APCDs) are responsible for developing air quality plans directed at meeting the National Ambient Air Quality Standards (NAAQS) set by the U.S. Environmental Protection Agency (EPA). The NAAQS identify specific pollutants and acceptable pollutant threshold levels for each region. Areas where a pollutant problem exists are classified as "non-attainment" areas. Deadlines for attainment of the NAAQS have been specified in the CAA.

In San Diego County, I-805 is located in the San Diego Air Basin. This air basin was originally designated as a "nonattainment" area for ozone and classified as "severe" under both the State and federal Clean Air Acts. In July, 1993 the federal government lowered San Diego's classification to "serious"; however, the State classification remained "severe" until recently when it was also lowered to "serious" by the State Air Resources Board. According to the 1990 Clean Air Act Amendments, the San Diego region's attainment deadline for ozone is 1999.

California submitted a request to the EPA for redesignation of San Diego from non-attainment to attainment for carbon monoxide (CO). After review by the EPA, San Diego is now designated as an attainment area for CO as of June 1, 1998.

The CCAA requires the development of a new air quality plan by air districts that did not attain the State's standards in 1987. The San Diego County APCD adopted the Regional Air Quality Strategy (RAQS) in June 1992. The plan incorporates strategies directed at reducing pollutants and increasing vehicle occupancy in an effort for the region to achieve the State's standards. The RAQS will be implemented by the San Diego Air Pollution Control District, Caltrans, SANDAG, the transit operators, and the cities of this region.

As part of the RAQS, SANDAG has developed transportation related strategies towards attainment of the plan's goals. These strategies are composed of TCM programs planned to achieve the following requirements of the CCAA: a one and four-tenths minimum average vehicle occupancy during weekday commute hours by 1999, no net increase in emissions relative to population growth after 1997, and contribute to the required reduction in District-wide emissions of five percent per year, averaged every consecutive three-year period. The TCM program is comprised of the following measures: (1.) TDM; (2.) Transportation Capacity Expansion; (3.) TSM; and (4.) Indirect Source Control . The four measures of the TCM program and their tactics and elements are summarized in the outline that follows. A more detailed discussion of each measure can be found in the Regional Air Quality Strategy.

INTELLIGENT TRANSPORTATION SYSTEM (ITS)

ISTEA calls for the creation of an economically efficient and environmentally sound transportation system that will move people and goods in an energy efficient manner. This can no longer be done simply by adding to the existing highway system. ITS offers the potential to improve safety and efficiency in nearly every function of our complex multi-modal transportation system by applying a broad range of diverse technologies. The U.S. Department of Transportation has defined an Intelligent Transportation Infrastructure (ITI) Program consisting of traffic detection and monitoring, communications and control systems required to support a variety of ITS products and services.

New Technology

ITI/ITS Programs offer the potential to deploy and operate traffic signal control systems, freeway management systems, transit management systems, incident management systems, electronic fare payment systems, electronic collection systems and multimodal traveler information systems.

Under the ISTEA ITS program, four transportation corridors in the nation have been selected to showcase coordinated intelligent transportation system elements. One of the priority corridors selected is the Southern California Priority Corridor. This corridor lies within the major urbanized and adjacent non-urbanized areas of Ventura, Los Angeles, San Bernardino, Riverside and San Diego Counties and all of Orange County. In San Diego, I-805 is included as part of the corridor. ITS activities in the San Diego region include the innovative use of the existing solar powered freeway call box infrastructure, the operation of the multifunctional/multimodal Transportation

Management Center, the provision of automated traffic operation information to fleet operators in the goods movement, transit, and hazardous material industries, and the development of an ITS International Border Crossing Operations Strategic Plan. Additional ITS technologies to be utilized in the San Diego region include vehicle navigation systems, computerized roadway sensors, changeable message signs, and television roadway monitoring devices.

Another related new technology is the future provision of an automated highway system (AHS). ISTEA also mandated development of an automated highway and a vehicle prototype from which future fully automated intelligent vehicle highway systems can be developed. Caltrans is a core member of The National Automated Highway System Consortium, which was formed to specify, develop and demonstrate a prototype of a working AHS in the United States by 2001. AHS technology consists of at least two major subsystems, including vehicles and infrastructure. AHS will showcase features such as adaptive cruise control, object detection, collision warning and avoidance systems, longitudinal and lateral vehicle control, maneuver coordination and navigation systems. The specifications will provide for evolutionary deployment that can be tailored to meet regional and local transportation needs. The Consortium will seek opportunities for early introduction of vehicle and highway automation technologies to achieve early benefits for all surface transportation users. In the San Diego region, an AHS Proof-of-Technical-Feasibility Demonstration occurred during August, 1997 on the existing I-15 reversible HOV lanes.

Congestion Pricing Studies

An additional strategy being studied is congestion pricing, which is a direct market incentive to ensure that transportation system users pay the “real” costs of the transportation benefits they receive. One purpose of congestion pricing is to reduce travel demand. With the advent of technological advances such as electronic toll collection and traffic management and automatic vehicle identification systems, congestion pricing could be developed for a wide variety of transportation facilities. ISTEA provided funding of up to $25 million annually over the 1992-97 period to support Federal participation in congestion pricing pilot programs. SANDAG applied for and was awarded a federal technical assistance grant from the Federal Highway Administration for a two-phased pilot program which allows single occupant vehicle drivers to “Buy-in” to the existing I-15 reversible HOV lanes. The intent of the pilot program is to test market-based roadway pricing concepts to better manage traffic congestion and air quality in the region while raising revenues for the expansion of transit services and HOV facility improvements.

COMPARISON OF CONCEPTS

The purpose of this section is to document alternative Transportation Concepts that were considered. The Concept from the July, 1991 Route Concept Report (RCR) for the year 2010 is compared with this 1999 TCR for the year 2020.

In 1984, the original Concepts were set based on the SANDAG Series 6 Population and Travel Forecasts for the year 2005. The 1990 and 1991 Route Concepts were based on the SANDAG Series 7 Population and Travel Forecasts for the year 2010.

The 1999 Transportation Concepts are based on the SANDAG Series 8 Population and Travel Forecasts for the year 2020. Table 12 is comprised of a segment by segment comparison between the 1991 Route Concept Report and this current Transportation Concept Report.

TABLE 12
COMPARISON OF CONCEPTS

1991 Route Concept for 2010 (Series 7 2010 Forecast)		1999 Transportation Concept for 2020 (Series 8 2020 Forecast)	
Location	**No. Lanes/ Facility Type/ Concept LOS**	**Location**	**No. Lanes/ Facility Type/ Concept LOS**
I-5 to SR-905	8F/D	I-5 to SR-905	8F/E
SR-905 to Palm Avenue	8F/D	SR-905 to Palm Avenue	8F/E
Palm Avenue to H Street	8F/E	Palm Avenue to H Street	8F/E
H Street to SR-54	8F/E	H Street to SR-54	8F/E
SR-54 to SR-94	8F/E	SR-54 to SR-94	8F/E
SR-94 to I-15	8F/F0	SR-94 to I-15	8F/F0
I-15 to I-8	8F/F0	I-15 to I-8	8F/F0
I-8 to SR-163	8F/F0	I-8 to SR-163	10F/F0
SR-163 to SR-52	8F/F0	SR-163 to SR-52	8F/E
SR-52 to Mira Mesa Blvd	8F/F0 + 2HOV/C*	SR-52 to Mira Mesa Blvd	8F/F0 + 2 HOV/C*
Mira Mesa Blvd to I-5	8F/E + 2HOV/C*	Mira Mesa Blvd to I-5	8F/E + 2 HOV/C*

HOV= High Occupancy Vehicle lanes
*The Concept LOS for the HOV lanes is LOS "C".

Table 13 identifies the I-805 segments where, with the Concept Facility in place, the 2020 Operating LOS remains at a deficient level. This includes all segments except Segment 1. This table illustrates the LOS's that could be achieved by enlarging the facility beyond the Concept Facility size. For these segments the table lists increasingly larger facility sizes, starting with the number of lanes called for in the Transportation Concept and ending with the number of lanes required to achieve the CMP minimum standard of LOS "E". The Concept Facility information is shown on the line adjacent to the segment number. The larger alternative facility information is shown in italics.

The table shows that extremely large facilities, as wide as 16 lanes in some segments, would be necessary to reach LOS "E". Due to high costs and associated impracticalities, these facility sizes are not proposed as the Transportation Concept for these segments.

TABLE 13
MAINLANES REQUIRED TO ACHIEVE IMPROVED LEVEL OF SERVICE

Segment	Location	Concept Facility/ Alternative Facilities	D/C Ratio	Peak Hour Operating LOS
2	SR-905 to Palm Avenue	8F	1.08	F0
		10F	*0.87*	*D*
3	Palm Avenue to H Street	8F	1.24	F0
		10F	*1.07*	*F0*
		12F	*0.89*	*D*
4	H Street to SR-54	8F	1.46	F2
		10F	*1.25*	*F0*
		12F	*1.04*	*F0*
		14F	*0.89*	*D*
5	SR-54 to SR-94	8F	1.25	F0
		12F	*1.04*	*F0*
		14F	*0.89*	*D*
6	SR-94 to I-15	8F	1.44	F2
		10F	*1.24*	*F0*
		12F	*1.03*	*F0*
		14F	*0.88*	*D*
7	I-15 to I-8	8F	1.35	F1
		10F	*1.24*	*F0*
		12F	*1.03*	*F0*
		14F	*0.88*	*D*
8	I-8 to SR-163	10F	1.25	F0
		12F	*1.04*	*F0*
		14F	*0.89*	*D*
9	SR-163 to SR-52	8F	1.26	F1
		10F	*1.08*	*F0*
		12F	*0.90*	*D*
10	SR-52 to Mira Mesa Blvd	8F + 2HOV	1.26	F1
		10F + 2 HOV	*1.16*	*F0*
		12F + 2HOV	*0.97*	*E*
		14F + 2HOV	*0.83*	*D*
11	Mira Mesa Blvd to I-5	8F + HOV	1.26	F1
		10F + 2HOV	*1.01*	*F0*
		12F + 2HOV	*0.84*	*D*

D/C = Demand to Capacity
HOV = High Occupancy Vehicle Lane

2020 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS

Table 14 shows highway improvements to I-805 that are part of the 2020 Transportation Concept. Segments without proposed highway improvements are not included. The peak hour D/C ratio and peak hour Operating LOS listed assume completion of the proposed highway improvements. These improvements are also shown on the Transportation Concept Map at the end of this report.

TABLE 14
2020 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS

	Segment/ County/ Post Mile	Location	Improvement Description	Peak Hour D/C Ratio	Peak Hour Operating LOS *	Concept LOS**
2	SD 1.8-2.9	SR-905 to Palm Avenue	Study HOV/Managed/Added Lanes	1.08	F0	E
3	SD 2.9-7.2	Palm Avenue to H Street	Study HOV/Managed/Added Lanes	1.24	F0	E
3	SD 4.4	Orange Avenue	Revise interchange***	1.24	F0	E
3	SD 5.8-6.4	Telegraph Canyon Road	Revise interchange	1.24	F0	E
4	SD 7.2-8.9	H Street to SR-54	Study HOV/Managed/Added Lanes	1.46	F2	E
5	SD 8.9-13.5	SR-54 to SR-94	Study HOV/Managed/Added Lanes	1.25	F0	E
6	SD 13.5-14.6	SR-94 to I-15	Study HOV/Managed/Added Lanes	1.44	F2	F0
7	SD 14.6-17.6	I-15 to I-8	Study HOV/Managed/Added Lanes	1.35	F1	F0
7	SD 16.4-17.6	El Cajon Blvd to I-8	Construct NB auxiliary lane	1.35	F1	F0
8	SD 17.6-20.6	I-8 to SR-163	Study HOV/Managed/Added Lanes	1.25	F0	F0
9	SD 20.6-23.7	SR-163 to SR-52	Study HOV/Managed/Added Lanes	1.26	F0	E
10	SD 24.5-25.9	0.2 km north of Governor Drive to La Jolla Village Dr/Miramar Rd	Construct new interchanges and auxiliary lanes (Phases I and II)	1.44	F2	F0
10	SD 23.7-27.1	SR-52 to Mira Mesa Blvd	Construct HOV/Managed/Added lanes	1.26	F0	F0
11	SD 27.1-28.5	Mira Mesa Blvd to I-5 (N)	Construct HOV/Managed/Added lanes	1.26	F1	E

D/C = Demand to Capacity

* Peak Hour Operating Level Of Service includes provision of state highway, transit and arterial improvements.
** Concept LOS is based on the SANDAG CMP minimum LOS standard.
***Project includes the realignment and widening of Olympic Parkway from the I-805 interchange to Brandywine Avenue.

POST-2020 ULTIMATE TRANSPORTATION CORRIDOR

The post-2020 Ultimate Transportation Corridor (UTC) describes the long term (beyond the 20 year planning period) right of way requirements for a particular segment. The long term needs are determined by Advanced Transportation System Development (ATSD) activities which include investigation and analysis of Community Plans, General Plans, Transportation Plans, Land Use Plans, Environmental Impact Reports, and other planning documents. The intent is to take advantage of or develop opportunities for long term right of way acquisition and to work with local and regional agencies to implement corridor preservation measures.

The UTC for I-805 is the same as the 2020 Transportation Concept facility. A future study should consider the construction of HOV lanes, managed lanes and general

purpose lanes from SR-905 to SR-52. The results of this study will be incorporated into the ultimate concept.

LIST OF SYSTEM PLANNING ACRONYMS

ADT	Average Daily Traffic
AHS	Automated Highway System
APCD	Air Pollution Control District
ATSD	Advanced Transportation System Development
AVI	Automated Vehicle Identification
CAA	Clean Air Act
CBD	Central Business District
CCAA	California Clean Air Act
CMP	Congestion Management Program
D/C	Demand Volume to Capacity Ratio
DSMP	District System Management Plan
DU	Dwelling Unit
EPA	Environmental Protection Agency
ETTM	Electronic Toll Collection and Traffic Management
FHWA	Federal Highway Administration
FY	Fiscal Year
HOV	High Occupancy Vehicle
IBTC	International Border Trade Corridor
ICES	Intermodal Corridors of Economic Significance
IRRS	Interregional Route System
ISC	Indirect Source Control
ISTEA	Intermodal Surface Transportation Efficiency Act
ITI	Intelligent Transportation Infrastructure
ITMS	Integrated Traffic Management System
ITS	Intelligent Transportation Systems
LOS	Level of Service
LROP	Long Range Operations Plan
LRT	Light Rail Transit
MIS	Major Investment Study
MSL	Maintenance Service Level
MTDB	Metropolitan Transit Development Board
NAAQS	National Ambient Air Quality Standards
NAFTA	North American Free Trade Agreement
NAHSC	National Automated Highway System Consortium
NHS	National Highway System
PM	Post Mile
POE	Port of Entry
RAQS	Regional Air QualityStrategy
RAS	Regional Arterial System
RCR	Route Concept Report
RTP	Regional Transportation Plan
R/W	Right of Way
SANDAG	San Diego Association of Governments
SHELL	Subsystem of Highways for the Movement of Extralegal Permit Loads
STAA	Surface Transportation Assistance Act
STIP	State Transportation Improvement Program
STOPS	Strategic Traffic Operation Plan for Southern California
TCM	Transportation Control Measure
TCR	Transportation Concept Report
TDM	Transportation Demand Management

TSDP	Transportation System Development Plan
TMA	Transportation Management Association
TMC	Transportation Management Center
TSM	Transportation Systems Management
UTC	Ultimate Transportation Corridor
VMT	Vehicles Miles Travelled

LEVEL OF SERVICE (LOS) DEFINITIONS

The concept of Level of Service (LOS) is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. A LOS definition generally describes these conditions in terms of such factors as speed, travel time, freedom to maneuver, comfort and convenience, and safety. Level of Service definitions can generally be categorized as follows:

LOS	D/C	Congestion/Delay	Traffic Description
		(Used for freeways with eight or more lanes)	
"A"	< .42	None	Free flow.
"B"	0.43-0.62	None	Free to stable flow, light to moderate volumes.
"C"	0.63-0.79	None to Minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
"D"	0.80-0.92	Minimal to Substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
"E"	0.93-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
		(Used for freeways and expressways)	
"F0"	1.01-1.25	Considerable 0-1 hour delay	Forced flow, heavy congestion, long queues form behind breakdown points, stop and go.
"F1"	1.26-1.35	Severe 1-2 hour delay	Very heavy congestion, very long queues.
"F2"	1.36-1.45	Very severe 2-3 hour delay	Extremely heavy congestion, longer queues, more numerous breakdown points, longer

I approve this Transportation Concept Report as the guide for development of Interstate 805 over the next 20 years.

Submitted By:

Kimberly Weinstein — 8-4-99

Kimberly Weinstein, Chief
System Planning Branch

Date

Recommended By:

Carl R West — 8-4-99

Carl R. West
District Division Chief
Planning

Date

Approved By:

Gary L. Gallegos — 9-7-99

Gary L. Gallegos
District Director

Date